CLAIMS

1. A locator stud for attachment to a panel, comprising: a radial flange including an annual end face and an axial generally conical recess opening through said annular end face having a major diameter at said annular end face, and a generally cylindrical shank portion integral with and extending axially from said radial flange coaxially aligned with said generally conical recess having a diameter less than said radial flange.

2. The locator stud as defined in claim 1, wherein said radial flange includes at least one radial projection preventing rotation of said locator stud in a panel.

3. The locator stud as defined in claim 1, wherein said radial flange includes a plurality of circumferentially spaced radial projections preventing rotation of said locator stud in a panel.

4. The locator stud as defined in claim 3, wherein said radial flange includes a plurality of planar surfaces between said circumferentially spaced radial projections.

5. The locator stud as defined in claim 4, wherein said radial flange includes a frustoconical surface extending radially outwardly from said annular end face to adjacent said planar faces.

6. The locator stud as defined in claim 1, wherein said radial flange includes a frustoconical surface extending radially outwardly from said annular end face.

7. The locator stud as defined in claim 6, wherein said radial flange includes a plurality of circumferentially spaced radial projections preventing rotation of said locator stud in a panel.

8. The locator stud as defined in claim 7, wherein said radial flange includes a plurality of planar faces between said circumferentially spaced radial projections forming a polygonal surface with said radial projections extending from corner portions of said polygonal surface.

9. The locator stud as defined in claim 8, wherein said radial projections each have a planar end face.

10. The locator stud as defined in claim 1, wherein said generally conical recess has a planar end wall within said shank portion.

11. A locator stud for attachment to a panel, comprising: a body portion including a radial flange portion having an annular end face, an axial generally conical recess opening through said annular end face having a major diameter at said annular end face and a frustoconical outer surface extending radially outwardly from said annular end face, and a generally cylindrical shank portion integral with and extending axially from said radial flange portion coaxially aligned with said generally conical recess having a diameter less than said body portion.

12. The locator stud as defined in claim 11, wherein said flange portion includes a polygonal outer surface adjacent said frustoconical surface.

13. The locator stud as defined in claim 12, wherein said radial flange includes at least one radial projection.

14. The locator stud as defined in claim 11, wherein said radial flange portion includes a plurality of radial projections projecting from corner portions of said polygonal outer surface.

15. The locator stud as defined in claim 14, wherein said radial projections each include a planar end face.

16. The locator stud as defined in claim 14, wherein said radial projections each include planar generally radially extending side faces.

17. The locator stud as defined in claim 11, wherein said generally conical recess has a planar end wall located within said shank portion.

18. A locator stud for attachment to a panel, comprising: a body portion including a radial flange portion having a plurality of circumferentially spaced radial projections, an annular end face and an axial generally conical recess opening through said annular end face having a major diameter at said annular end face, and a generally cylindrical shank portion integral with and extending axially from said radial flange portion coaxially aligned with said generally conical recess having a diameter less than said body portion.

19. The locator stud as defined in claim 18, wherein said radial flange portion includes a frustoconical surface extending radially outwardly from said annular end face.

20. The locator stud as defined in claim 19, wherein said radial flange portion includes a plurality of planar outer surfaces between said circumferentially spaced radially projections defining a polygonal surface with said plurality of circumferentially spaced radial projections extending from corners of said polygonal surface.

21. A method of attaching a locator stud to a panel, comprising the following steps:

forming an opening through said panel;

forming a locator stud including a radial flange portion having an outer diameter greater than an internal diameter of said opening through said panel, an annular end face, an axial generally conical recess opening through said annular end face and a shank portion integral with and extending from said radial flange portion coaxially aligned with said generally conical recess having a diameter less than said flange portion;

driving said radial flange portion into said opening into said panel forming an interference fit; and

driving a die member into said generally conical recess having an outer diameter smaller than said major diameter and greater than a minor diameter of said generally conical recess, thereby deforming said radial flange portion radially outwardly into said internal diameter of said opening through said panel.

22. The method of attaching a locator stud to a panel as defined in claim 21, wherein said method includes forming said opening through said panel having a first internal diameter less than said outer diameter of said flange portion of said locator stud and a second internal diameter greater than said outer diameter of said flange portion, then driving said flange portion into said first internal diameter, and deforming said flange portion radially outwardly with said die member against said second internal diameter of said opening.

23. The method of attaching a locator stud to a panel as defined in claim 22, wherein said method includes forming a first cylindrical opening in said panel having said first internal diameter and a second frustoconical opening in said panel having a minor diameter equal to said first internal diameter and a major diameter greater than said outer diameter of said flange portion of said locator stud, and deforming said outer diameter of said flange portion with said die member into said frustoconical opening.

24. The method of attaching a locator stud to a panel as defined in claim 21, wherein said method includes driving a die member having a hemispherically shaped end portion into said generally conical recess having a major diameter greater than a minor diameter of said generally conical recess.

25. The method of attaching a locator stud to a panel as defined in claim 21, wherein said method includes forming said flange portion of said locator stud to include a plurality of circumferentially spaced radial projections and deforming said radial projections into an internal surface of said opening through said panel.

26. The method of attaching a locator stud to a panel as defined in claim 21, wherein said method includes forming said flange portion to include a frustoconical surface extending radially outwardly from said annular end face of said flange portion having a major diameter greater than said internal diameter of said opening through said panel and driving said frustoconical surface into said opening in said panel.